

Top fuel efficiency

Bill consistently achieves above-average fuel efficiency: between 31 and 47 litres per 100 km (6 and 9 miles per gallon), depending on speed, terrain, load and weather (temperature and wind). Temperature and the use of winter fuels are the most important variables: winter mileage averages around 45.15 litres per 100 km (6.25 miles per gallon), compared with 35.31 litres per 100 km (8 miles per gallon) in the summer. Bill's best mileage, under ideal conditions, was 27.66 litres per 100 km (10.2 miles per gallon.)

Prudhomme Trucks uses driver education and fuel-performance monitoring to reach optimum fuel efficiency. Although pleased with the performance of all of its drivers, the company readily admits that Bill Seibel has higher fuel efficiency than any other company driver or owner-operator with comparable equipment. Bill's costs are six percent less than Prudhomme's fleet average - remarkable, considering the demands of his route and his truck specifications. When compared with Prudhomme's other high-horsepower trucks (i.e., with at least 475-horsepower engines), the savings are closer to 15 percent. With current fuel prices, this translates into savings of \$7,500 each year.

Learn more

For more information on energy-saving opportunities for fleets, please write to the following:

FleetSmart
Natural Resources Canada
Office of Energy Efficiency
580 Booth Street, 18th Floor
Ottawa ON K1A 0E4

You can also fax your request to (613) 952-8169 or e-mail fleet.smart@nrcan.gc.ca.

ISBN 0-662-29545-5
Cat. No. M92-207/2-2000E



Office of Energy Efficiency
Office de l'efficacité énergétique

*Leading Canadians to Energy Efficiency
at Home, at Work and on the Road*

The Office of Energy Efficiency of Natural Resources Canada is a dynamic organisation with a mandate to renew, strengthen and expand Canada's commitment to energy efficiency in order to help address the challenges of climate change.



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Bill Seibel:

Big savings from attention to detail

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Bill Seibel subscribes to the old saying that if you mind the pennies, the dollars will take care of themselves. Nearly four decades in the trucking industry have taught Bill that to survive - especially today - every detail counts, and it's this attention to detail that has translated into thousands of dollars of fuel cost savings.

Background

A Regina-based owner-operator, Bill has spent the last eight years working for Prudhomme Trucks Ltd., a truckload carrier operating a range of equipment, including reefer units, in Ontario and western Canada.

For the past two and a half years, Bill has been hauling time-sensitive farm equipment parts and supplies from a Regina warehouse for distribution in Alberta. He makes five return trips per week to Medicine Hat and Calgary. Although Bill has to put scheduling demands above fuel efficiency, his equipment and its careful operation allow him to squeeze the most out of every gallon.



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Specifications

Bill drives a 1995 long-hood model with an 18-speed transmission and a 3.36-ratio rear axle. His engine, originally rated at 500 horsepower, was subsequently upgraded to 550 horsepower and 1,850 foot-pounds of torque.

Choosing the right truck

Bill's businesslike approach to trucking starts with choosing the right power units and set-up in terms of engine and powertrain. He looks beyond the initial purchase price to consider operating costs, repairs, maintenance and resale value.

Although tempted to boost his fuel efficiency with one of the more aerodynamic trucks, Bill knew that they are more difficult to work on. He chose a standard truck style so that he and his son, Lee, could continue to take care of basic maintenance. The fuel savings with a more aerodynamic truck just wouldn't make up for the extra time and money needed to maintain it.

Bill feels that his truck can meet the varied demands of his routes and loads as well as deliver optimum fuel economy.

Aerodynamics and low idling time

Bill quickly set to work making his truck as aerodynamic as possible. By investing \$1,000 in improvements, he added about an extra 1.71 litres per 100 km (0.25 miles per gallon) – a savings of \$2,000 to \$3,000 per year.

The truck is equipped with side extenders, and Bill positions the fifth wheel to minimize the gap between the truck and trailer. He has also installed a "whale tail" – a small wind deflector mounted on top of the sleeper. (Bill chose not to install a full fairing as he finds they can cause instability in windy conditions.)

To keep his idling time to a minimum, Bill fitted his truck with an automatic timer that shuts off his motor after cool-down. This relatively inexpensive addition pays for itself in less than a year.

Care of operation

Bill takes full advantage of the technical information available from his engine manufacturer, trade magazines and other sources, keeping up with the latest technology and product testing.

He tracks his fuel use and distance travelled at each fill-up, noting such factors as the weather, speed, terrain and load. This careful logging makes it easy for Bill to see the impact that these factors and any other changes to his truck or driving practices have on fuel efficiency.

Bill's \$1,000 investment in aerodynamics improvements increased his fuel efficiency by 1.71 litres per 100 km (0.25 miles per gallon).



Bill's fuel efficiency

Tractor	Engine	Torque	Transmission	Rear axle	Season	Gross vehicle weight	Fuel efficiency
1995	550 HP	1,850 foot-pounds	18-speed	3.36	Summer	45,359 kg (100,000 lb.)	35.28 L/100 km (8.0 mpg)
1995	550 HP	1,850 foot-pounds	18-speed	3.36	Winter	45,359 kg (100,000 lb.)	45.15 L/100 km (6.25 mpg)

Source: Bill Siebel

Bill also carefully monitors his tachometer and turbo boost to keep them in the most fuel-efficient range. He knows that his truck achieves its best fuel economy at 1250 rpm, provided the boost pressure is kept in check. The low-ratio rear axle on his truck means that his normal operating speed is very close to his most fuel-efficient point.

Bill uses cruise control on flat roads but turns it off on grades or in gusty winds to keep the turbo boost in the fuel-efficient range. Bill also advocates keeping the engine's rpm in the fuel-efficient range or using progressive shifting. He recommends shifting gears when the truck speed is just high enough to get into the power range of the next gear. In other words, using torque, not horsepower. Over-revving is hard on the engine and fuel. His engine achieves maximum torque at 1200 rpm and maximum horsepower at 1600 rpm. His vehicle's "sweet spot" – the ideal combination of torque and horsepower – is 1400 rpm.

